

### REMARKS

Careful reconsideration of this application in light of the present amendments and remarks is most respectfully requested. Claims 1-6 were originally pending in this application. In this response, claim 1 is amended and new claims 7-20 are added. Accordingly, claims 1-20 now stand for consideration.

#### Remarks Regarding Rejections:

In paragraph 2 of the Office Action, claims 1 and 3-6 were rejected under 35 U.S.C. 102(b) over Kankawa. In paragraph 4 of the Office Action, claim 2 was rejected under 35 U.S.C. 103 over Kankawa. These rejections are most respectfully traversed, as follows.

First, it is most respectfully submitted that the Kankawa reference does not contemplate purposes achievable by embodiments of the present invention. In addition, it is respectfully submitted that the reference does not teach or suggest the combinations of features claimed in any of the pending claims.

Second, the Kankawa reference sets forth on column 2, line 56 to column 3, line 9, that certain objects achieved therefrom are as follows:

An object of this invention ... is to provide an injection molding binder which exhibits a highly desirable kneading property during the manufacture of a powder injection molding composition even in the absence of a plasticizer and avoids incurring such detriments as jetting or weld during the injection molding and an injection molding composition.

Still another object of this invention is to provide an injection molding binder which permits formation of a molded article incapable of sustaining such defects as a crack or an expansion at the degreasing step and allows the degreasing treatment to be completed quickly, an injection molding composition, and a method for the production of a sintered member.

A further object of this invention is to provide an injection molding composition which allows formation of a stable injection molded article incurring no exudation of oil therefrom even during a protracted storage.

On the other hand, preferred embodiments of the present invention can enable the creation of steel parts with a **higher carbon content** via, e.g., a simple pressing and sintering process.

Third, the Kankawa reference does not teach or suggest that combinations of features recited in, e.g., independent claim 1, including, e.g., the following recitations:

(1) **Preparing a sintered structural steel part with a carbon content of well over about 0.1%.** In this regard, claim 1 now clarifies that the method involves "preparing a sintered structural steel part with a carbon content of well over about 0.1%." This amendment is merely to place the claim in better form and/or to broaden this terminology, rather than to further

limit the claim to avoid prior art and/or to address any issues under 112 (which issues were not present).

(2) **A controlled atmosphere to remove the non-carbon content of the binder.** In this regard, claim 1 recites, e.g., "a controlled atmosphere to remove the non-carbon content of the binder." On the other hand, the reference does not teach or suggest such limitations. In particular, as set forth above, the cited reference does not contemplate achieving a higher carbon content.

Fourth, as set forth in the background of the present application (see e.g. page 1, second paragraph of Background of the Invention section), prior to the present invention:

It [was] hardly possible to produce a structural part from a carbon steel powder having a carbon content of above about 0.1% by pressing and sintering."

The preferred embodiments of the present invention may, inter alia, overcome limitations in the art by readily achieving a carbon content of well over about 0.1% with pressing and sintering (See also claim 1).

Fifth, in view of the above, it is respectfully submitted that the combination of features recited in claim 1 is not taught or suggested by the cited reference. In addition, it is respectfully submitted that the combinations of features recited in the claims depending from claim 1 are similarly not taught or suggested by the cited reference. Separate consideration of the

various combinations of features recited in each independent claim is respectfully requested. Moreover, while it should be apparent, the undersigned would like to make it emphatically clear on the record that other amendments, not discussed above, also clearly are not made to avoid prior art or to place the claims in condition for patentability, but merely to enhance the readability of the claim and, hence, should have no limiting effect of the fullest reach under the doctrine of equivalents (such amendments, e.g., reformat the sentence structures in terms of verb placement).

**Newly Added Claims:**

Newly added claims 7-20 recite various combinations of features that are also not suggested by the cited references. Independent consideration of each-and-every newly added claim is most respectfully requested.


**Concluding Remarks:**

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are due in connection with this filing,

please charge our Deposit Account No. 02-2130

Respectfully submitted,

By



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## APPENDIX A

### (Claim Amendments Shown With Deletions Bracketed

### & Additions Underlined)

1. (Amended) A method for preparing a sintered structural steel part with a carbon content of well over about 0.1% [up to 2%] by weight, comprising:

pressing [wherein] an agglomerated spherical soft iron-based powder comprising at least 0.5% by weight of a thermo-reversible hydrocolloid as a binder [is pressed] to a green body of high density, [characterized in that]

heating the green body [is heated] to a temperature of about 450-650°C under a controlled atmosphere to remove the non-carbon content of the binder, and

then sintering the green body [sintered] at a temperature of about 1100-1400°C to allow the remaining carbon to diffuse homogeneously into the sintered body, giving structural parts of high density and having high strength properties.